FIG. 1

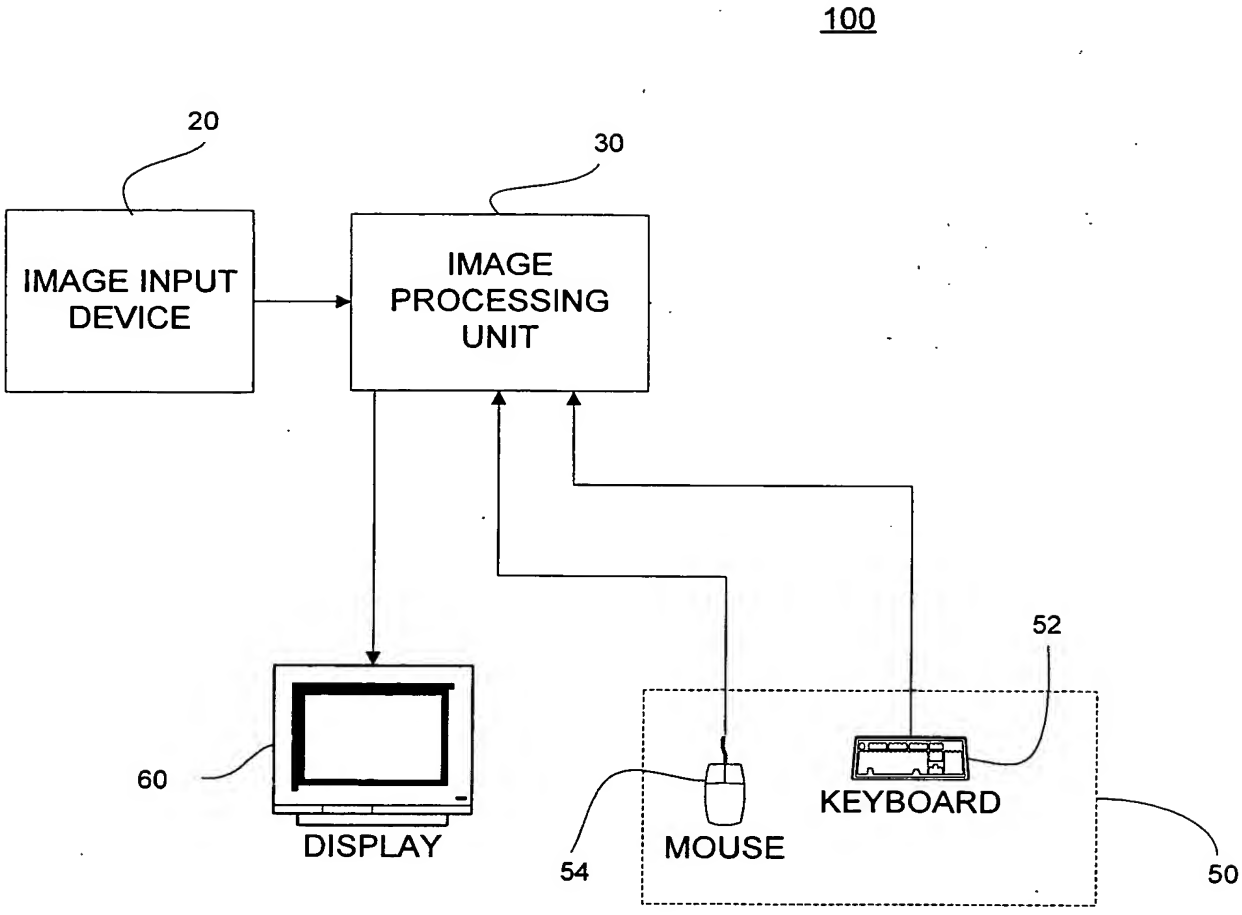

100
20
30
IMAGE INPUT DEVICE
IMAGE PROCESSING UNIT
52
60
DISPLAY
KEYBOARD
54
MOUSE
50

FIG. 2

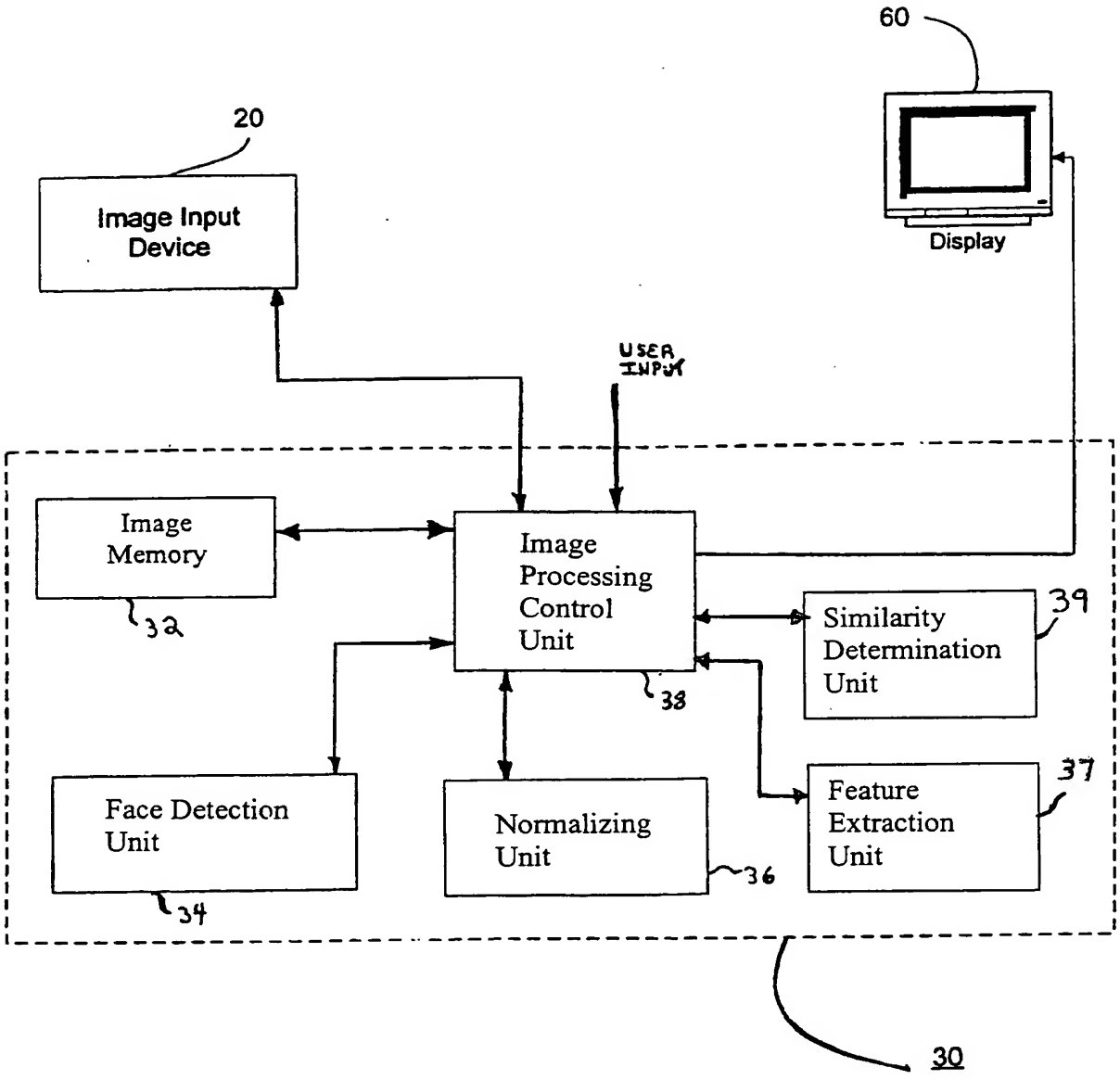
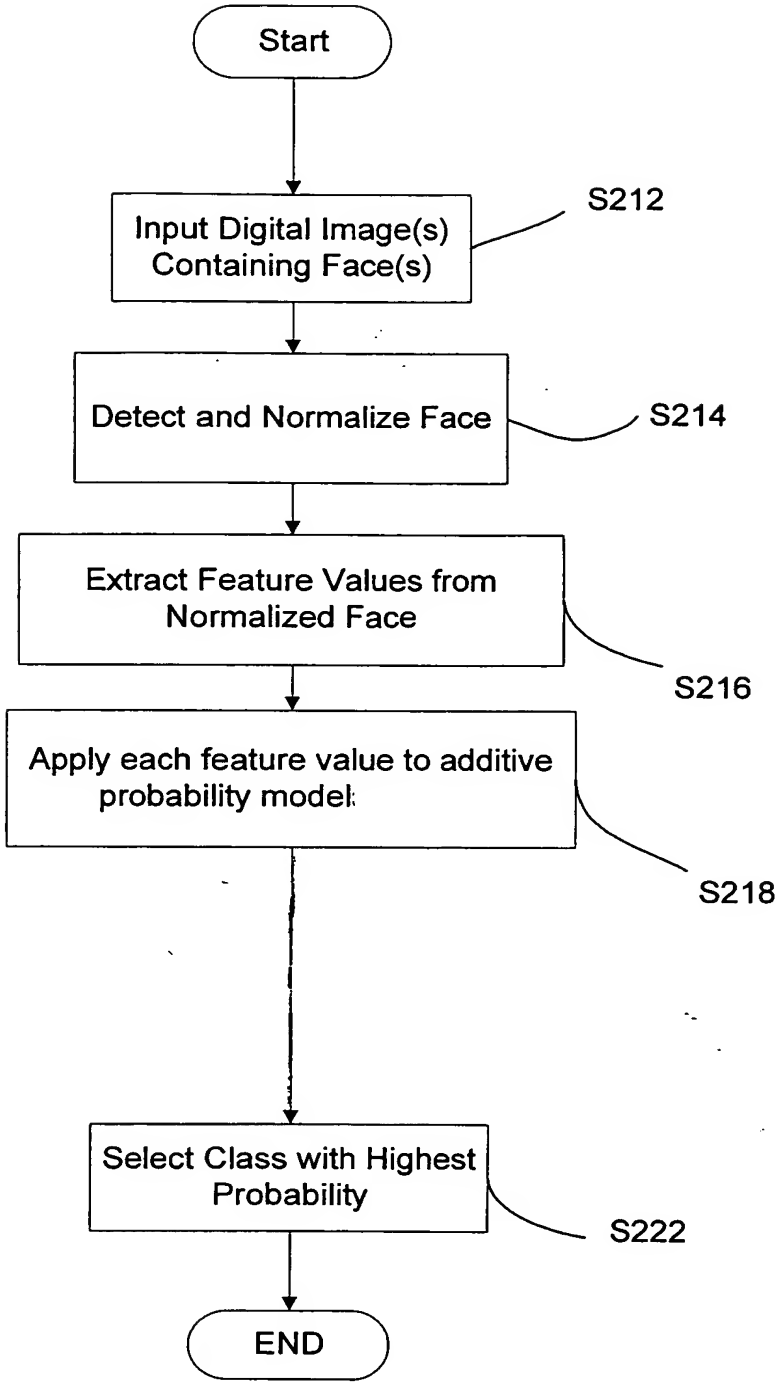

60
Display
20
Image Input Device
USER INPUT
Image Memory
32
Image Processing Control Unit
38
Similarity Determination Unit
39
Face Detection Unit
34
Normalizing Unit
36
Feature Extraction Unit
37
30

FIG. 3


Start
Input Digital Image(s) Containing Face(s)
S212
Detect and Normalize Face
S214
Extract Feature Values from Normalized Face
S216
Apply each feature value to additive probability model
S218
Select Class with Highest Probability
S222
END

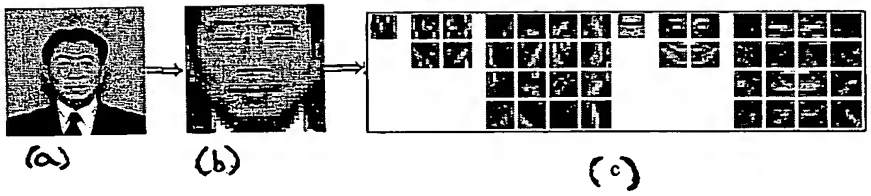


FIG. 4

Computing the Face Model:
Given X's (examples), compute the
posterior probability distribution
for Y.
(Do this for all features independently)

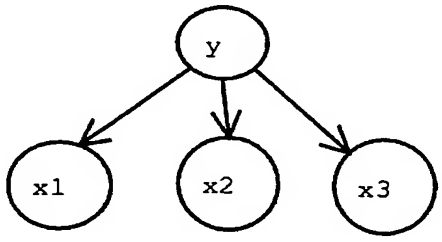


FIG. 7

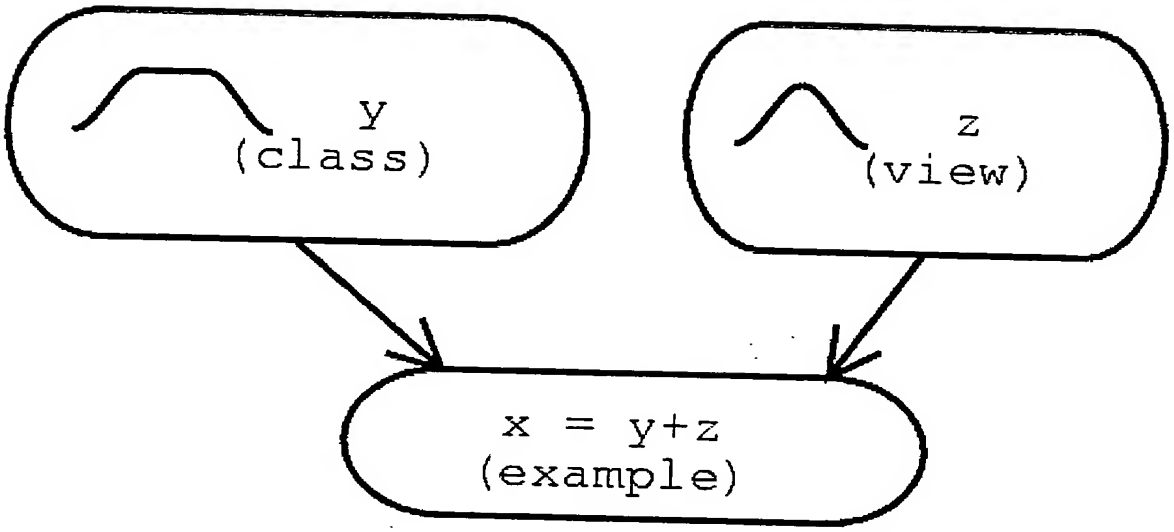
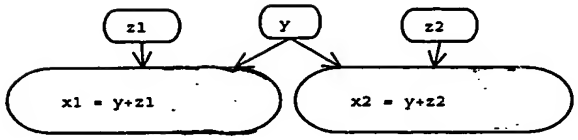


FIG. 5A



5B

Face verification:
Given X1 and X2, are they more
likely to belong to same person
or different people?
(Do this for all features independently)

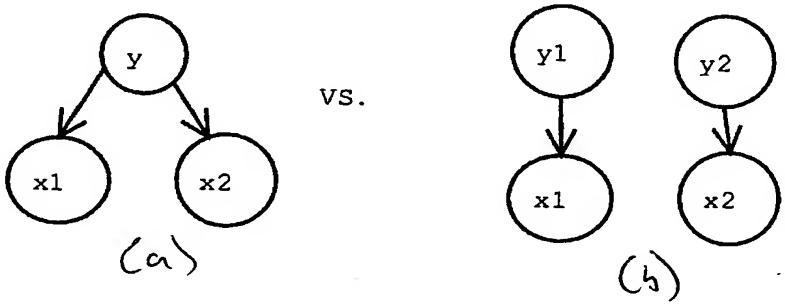


FIG. 8

FIG 6

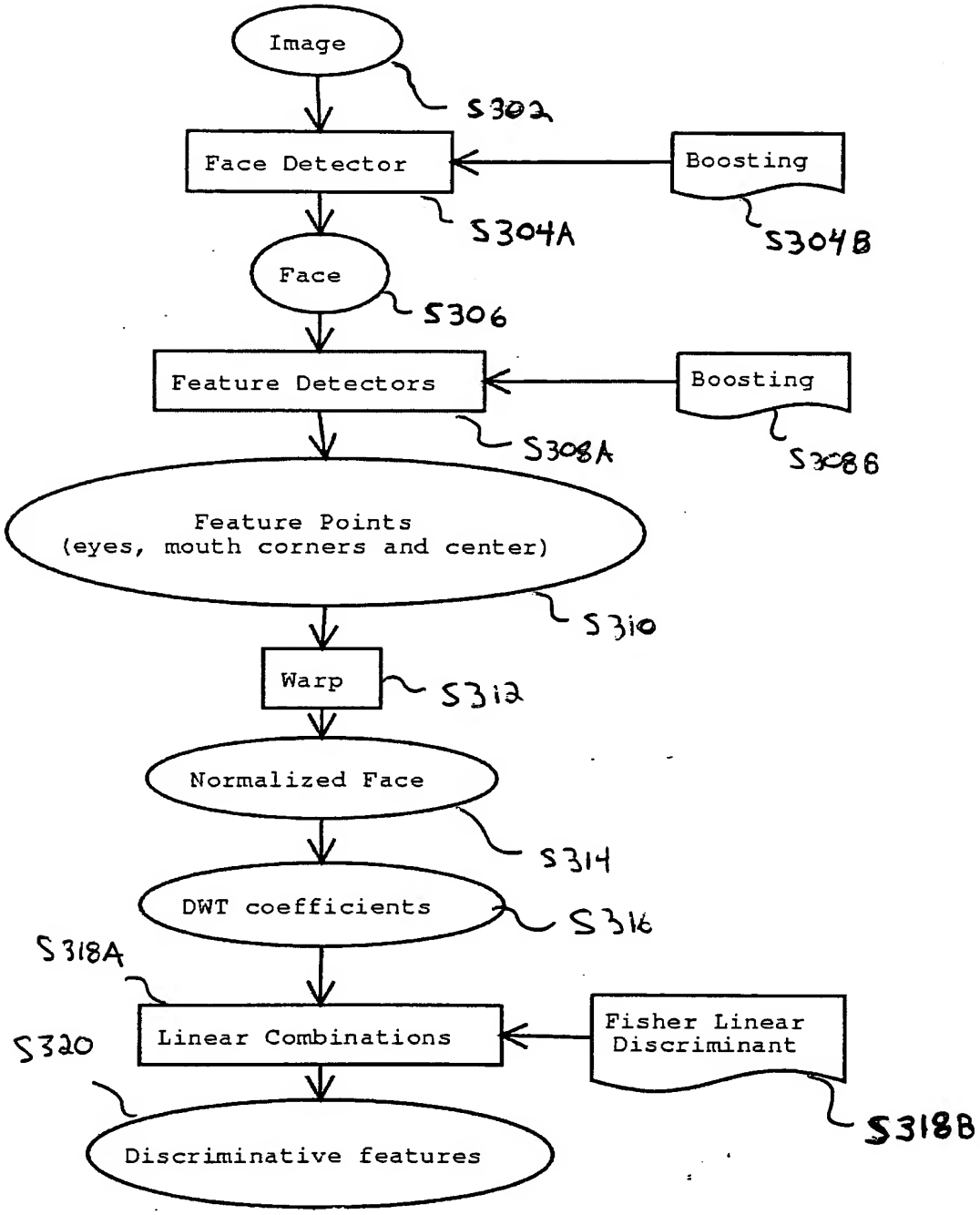


Image
S302
Face Detector
Boosting
S304A
S304B
Face
S306
Feature Detectors
Boosting
S308A
S308B
Feature Points
(eyes, mouth corners and center)
S310
Warp
S312
Normalized Face
S314
DWT coefficients
S316
S318A
S320
Linear Combinations
Fisher Linear
Discriminant
S318B
Discriminative features